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CROSS-SECTORAL ISSUES

Progress Report on Financial Resources

Report of the Secretary-General of the Conference

The Preparatory Committee, at its second substantive session, in its decision A/CONF.151/PC/L.36 noted the Progress Report on Financial Resources (A/CONF.151/PC/18) dated 31 January 1991 and requested the Secretary-General of the Conference to continue to develop the report for discussion at its third session, taking into account General Assembly resolution 44/228 and relevant decisions of the Preparatory Committee. This report should be read along with the Progress Report for the second session referred to above.

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1. The context

There is general agreement that accelerated development and elimination of poverty are a necessary part of a strategy to achieve sustainability and the right of developing countries to develop must not be compromised by conditions or constraints imposed on resource flows in the name of environment.

There is also widespread agreement that there should be a reversal of the net financial transfers from developing countries to industrial countries which emerged in the 1980s but as yet there is no consensus on how this may best be achieved. While individual country situations differ, making broad generalizations difficult, it is manifest that achieving rapid and sustainable development in low-income countries requires additional external resources.

The pace of development depends of course upon a country's own policies and management. (See A/CONF.151/PC/18, section 1.) Accelerated and sustainable development will require resource flows greatly in excess of current and prospective levels of official development assistance. Development is financed mostly from a country's own resources. A major portion of funding, both internal and external, will come from the normal flow of investments and from conventional rate lending. Transfers of technologies and capital investments will often be financed in the private sector. Concessional funding will be needed to support the additional efforts of government or governmental support deemed necessary to provide to the private sector.

While very substantial new funds will be required over a long period of time to meet the needs for environmental protection and support of environmentally-sound development, particularly in developing countries, there is an important potential for meeting at least some of these needs through redeployment of funds within existing national budgets. Budget priorities are already being modified in many developing and industrial countries. This is especially true in industrialized countries where many billions of dollars are currently being spent on subsidies to activities, such as agriculture, that are costly to consumers and tax-payers, create significant distortions in the market economy, and often encourage environmentally-unsound practices. It is also true of anomalies in the fiscal and tax systems in many countries, as for example in the case of fossil fuels in respect of which petroleum is subject to significant taxes whereas coal is often highly subsidized. And the major reductions in military expenditures that are now in prospect as a result of the changed international political and security climate open up prospects for redeployment of large amounts of funds.

Within sectors there are also opportunities for reaching more people with services by shifting to lower cost approaches. The "UNDP's Human Development Report 1991" cites examples of lower cost approaches for education, health care, water and sanitation. Such efficiencies are available in all countries. A budget efficiency approach will not, of course, overcome the need for additional resources to meet both development and environment objectives. On the other hand implementation of efficiencies will make better use of funds derived from all sources.

Developing countries will need substantial additional amounts of highly concessional financing for dealing with national environmental issues in the development context. Also, for global issues, there is a special case for additional financing beyond amounts usually available for supporting more rapid development.

In the context of today's Gross World Product approaching $US 25 trillion, world official development assistance (ODA) levels of about $US 55 billion are modest. They have held to about this level for the past decade. Of the $US 55 billion, OECD members provided in 1989 about $US 47 billion. As a group, OECD member ODA levels have increased during the decade pari passu with growth in OECD's combined GNP, offsetting reductions by Arab and other donors. OECD ODA levels have remained about 0.35 per cent of GNP or only half the United Nations 0.7 per cent target accepted by most OECD members and reiterated in the May 1990 Bergen Joint Agenda for Action. (The 0.7 per cent target is for ODA to developing countries and excludes funding, for example, for most Central and Eastern European countries.) An increase in the growth rate of ODA to 6 per cent annually would still mean 12 years to achieve a doubling of ODA levels, and an even longer period to reach the current target of 0.7 per cent of GNP. Substantially faster than historical growth rates would be in keeping with the communiqué of the OECD Council meeting at ministerial level 5 June 1991 which said: "Ministers recognize that in view of the huge development tasks ahead, particularly given the strong efforts toward democratization and economic policy reform throughout the developing world, substantial additional aid efforts will be required both quantitatively and qualitatively. They take note of the target already established by international organizations for the future level of development assistance (0.7 per cent of GNP)".

The external resources required by the Soviet Union and the countries of Central and Eastern Europe to assist them in effecting their policies of economic reform will add substantially to the demands for capital during the remainder of this decade. While the extent of these requirements remains somewhat uncertain, recent research by the World Institute for Development Economics Research of the United Nations University (WIDER) suggests that these may amount to around $US 50 billion annually, including provision for debt relief. (Paper prepared for the WIDER Conference on the Environment and Emerging Development Issues, 3-7 September 1990.) However, the basis and rationale for such capital flows is separate and distinct from that which motivates resource flows to developing countries.

It is also important to recognize that many of the required environment-related expenditures represent investments rather than costs, although they are usually referred to as "costs". In many cases, such investments will produce a direct economic return; in other cases, they produce less direct, but nevertheless significant, returns in economic and social terms; and in most cases the costs of timely and preventative actions will be much less than the ultimate cost of non-action or delayed action. And in the broader sense, expenditures on environment protection must be seen to represent an investment in maintaining the productivity of the Earth itself and its continued viability as a secure and hospitable home for present and future generations.

2. **Funding needs**

(i) Agenda 21

Agenda 21 will give rise to substantial financial needs at both national and international levels. As work on agenda 21 proceeds it is becoming increasingly clear that there will be a need for increasing the budgets and for strengthening the capacities of the United Nations agencies, organizations and programmes and other international organizations which will be responsible for its implementation. It will be possible to be more precise on the needs for strengthening of international organizations when reactions to the agenda 21 option have been obtained in the third substantive session.

Estimates of funding needs are being carried out in respect of action proposals to be considered for inclusion in agenda 21 and estimates are also being made as to the funds that will be required for implementation of the conventions on climate change and biodiversity. These estimates are expected to be available for consideration by the Preparatory Committee at its fourth session.

With regard to the modalities for providing these resources, the Preparatory Committee may wish to consider the following:

- the adequacy of existing mechanisms and resource flows and the need for new and additional resources;

- the relative roles of the regular budget and voluntary funding in the agencies and organizations;

- the role of catalytic funding from UNEP or "contract work" as executing agencies for UNDP.

(ii) Funding required under environment-related conventions and protocols

(a) Requirements

The Secretary-General of the Conference will continue to report cost estimates for implementing key conventions as and when such estimates become available. Meanwhile the following is presented as background information.

- The Executive Director of UNEP in his February 1991 Introductory Report prepared for the sixteenth session of the Governing Council (UNEP/GC16/4/Add.4, paragraph 9) put the incremental costs to developing countries for carrying out the Montreal Protocol in a range between $US 3 and $US 6 billion spread over the period 1990-2008. Information on the operation of the Ozone Fund is presented in A/CONF.151/PC/58.

- A report on Costing Exercises of measures adopted to limit possible climate changes (A/CONF.151/PC/23) was submitted for the second session of the Preparatory Committee. Further estimates as developed for the Intergovernmental Negotiating Committee will be reported as and when they become available.

- A study prepared for UNEP's Ad Hoc Working Group of Experts on Biological Diversity refers to costs ranging from hundreds of million of dollars to billions of dollars. In this connection, it may be noted that current levels of assistance for conserving biodiversity are about one quarter of a billion dollars.

(b) Funding principles for new conventions

In the Progress Report on Financial Resources prepared for the second session of the Preparatory Committee (A/CONF.151/PC/18) the Secretary-General of the Conference suggested that the Committee might wish to consider the principles which should obtain in connection with funding arrangements for future conventions. These might include:

- What considerations should determine the extent to which convention implementation would require external assistance and the category of countries which should be eligible for this assistance. Should a GNP measure be used and if so at what level of per capita income?

- Should the funding arrangements provided for in new agreements meet full incremental costs to developing countries of acceding to them, as in the case of the London Amendments to the Montreal Protocol? Should such funds be passed to the organizations, funds or households, who would bear the incremental cost on concessional terms as an incentive to make the necessary investment? How would "full incremental costs" be determined?

(iii) Capacity building in developing countries

The identification of the capacity requirements in respect of the particular issues at the global and regional levels is now taking place in the course of the development of the agenda 21. Capacity building in developing countries can be greatly facilitated by external financial and technical assistance. Of the $US 55 billion total world ODA level cited above in section 1 it is estimated that $US 15 billion is utilized for technical assistance, much of it for relatively expensive international experts. Both UNDP and OECD/DAC have recently been reviewing experience with technical assistance and, based on consultations with recipient and donor country managers, both see substantial room for strengthening the process. A key problem has been the uncoordinated provision of relatively costly short term assistance not well related to the assistance provided by others. There has not been sufficient emphasis on utilization of national personnel and on institution building. There is a perception

that the process can be strengthened by developing countries' articulation of capacity building strategies (for example, for agricultural research or for management of toxic chemicals) and donors agreeing to provide assistance on a more sustained basis within the framework of these strategies. If this view is accepted then the case can be made for a combination of more assistance for capacity building and a better use of existing assistance modalities.

Specific options for capacity building will have to be identified in the context of specific problems and programmes. Most of the capacity needs identified in agenda 21 can be met through strengthening of capacities at the national level. But given the transboundary dimensions of many environment and resource-related issues it will often be desirable to relate the development of national capacities to global and regional needs and to plans for development of similar, complementary, capacities at the global and regional levels.

Accordingly, as indicated in the paper on Technology Transfer (A/CONF.151/PC/53) the Secretary-General of UNCED has invited the regional development banks, the United Nations Economic Commissions and other principal regional organizations of the developing world to join with UNDP and UNEP in surveying existing institutional capacities in their respective regions, in relation to the environment and development issues to be addressed by UNCED, and in particular through agenda 21, and to identify the potential and the needs for strengthening of such capacities and establishment of networks which would constitute a "sustainable development and technology support system" for each region.

While specific estimates of the costs of such capacity building will have to wait until the completion of these surveys and the related work on agenda 21, it is already evident that there will need to be greatly expanded international support to meet the capacity-building requirements of the developing countries and regions to meet their own needs and ensure implementation of agenda 21.

(iv) Additional needs of developing countries

It may be helpful to the Preparatory Committee to begin to consider the magnitude of the costs over the next generation of achieving the goals on which Member States agree.

The funding requirements for accelerated development have been estimated in the United Nations General Assembly in terms of effort by donors rather than in terms of needs of recipients. The target, as mentioned above, was established at 0.7 per cent of donor GNP which would be about $US 110 billion at 1989 prices and exchange rates and GNP levels. In view of the uncertain comparability of GNP statistics among donors this figure should be taken as indicative of an order of magnitude.

A recent study by the World Institute for Development Economic Research of the United Nations University (WIDER) examined the issue from the point of view of developing country needs. It estimated that the additional annual capital inflows above current levels required by developing countries to attain a socially necessary rate of growth would rise to $US 60 billion in the year 2000. While there is as yet no considered movement towards attaining these levels, it is interesting to note that they also correspond with the doubling of current aid levels. (See "Toward a Global Environmental Compact" by Lal Jayawardena, WIDER, Helsinki, 17 June 1991.)

The "socially necessary rate of growth" which such a doubling would make possible is related to the need to deal with the backlog in meeting basic needs objectives, to the need to increase employment levels and to the need to improve income distribution. Such a rate of growth would also ensure achievement of the goals of the World Declaration on the Survival, Protection and Development of Children adopted at the World Summit for Children in 1990. It would provide the basis for a major attack on poverty which, as pointed up in document A/CONF.151/PC/45 is an imperative in both environment and development terms.

The same WIDER study estimates that if requirements of developing countries for environmental protection were added to those of socially necessary growth, these additional capital requirements would amount to some $US 60 billion in 1990 rising to somewhere in the region of $US 140 billion by the year 2000. These are clearly very large amounts in relation to current levels of ODA or private investment. Nevertheless, WIDER argues that having regard to the large shifts in payments surpluses and deficits now in prospect, it should be entirely feasible for the international community to provide for these substantial increases in resource flows to developing countries as well as meeting the requirements of the Soviet Union and Eastern Europe. The issue is primarily one of political will and priorities.

Considering at this point only a doubling of current levels of development assistance, the question can be asked as to how such additional funds could most effectively be employed to achieve a real acceleration of development and reduction of poverty. In this connection some observers have argued that substantial additional funding could be best used in response to developing country strategies which would at the same time achieve a more effective enabling climate for activity at all levels and direct significantly more resources to rural infrastructure and human development activities. This is discussed further under "Partnership in Additionality" in section 4 (vii) below.

However, as indicated, doubling of current levels of aid will still not provide for the additional resources required by the developing countries specifically for environmental protection. While the WIDER estimates referred to above may be indicative of the orders of magnitude of such requirements, more explicit estimates will be forthcoming as a result of the work now being undertaken by the UNCED secretariat in relation to the development of agenda 21.

Official financial flows are necessary, but they cannot replace and must complement and support substantially increased flows of private investment. Private investment is characteristically accompanied by technology transfer, training, marketing, design and management skills which can contribute significantly to the host country's development and environment objectives. Yet there has been a severe decline in private investment in developing countries in the past few years which needs to be reversed. This will require special measures by Governments to inspire confidence and provide incentives and a conducive environment for private investment under conditions that are compatible with their national objectives, interests and values.

(v) Environment programmes

The Environment Fund of UNEP, established in 1972, "to provide additional finances for environmental programmes", will require increased contributions in the period ahead. The UNEP Governing Council at its sixteenth session from 20-31 May 1991 approved an appropriation of $150 million for Fund programme activities for the biennium 1992-1993 and an additional programme of $30 million to be used only if and when additional resources become available. The Council affirmed the desirability of working towards a level substantially higher than the present level of contributions by 1995. Future funding requirements will need to be reviewed in light of decisions taken at UNCED, particularly in respect of the important role that UNEP is expected to play in implementation of key elements of agenda 21.

3. Sources of funding

Financing of the budgets and programmes of United Nations agencies and organizations and of other intergovernmental organizations which will be involved in the implementation of the decisions taken at UNCED, is provided either through mandatory assessments or voluntary contributions, and most often by a combination of both. Funding required under conventions is provided by assessments that are mandatory under the provisions of the convention or its protocols although these may be supplemented by voluntary contributions. Non-governmental organizations which will be involved in follow-up and implementation usually derive their administrative costs and much of their programme funding from private sources, including their own membership, but to an increasing degree also receive governmental funding, usually in respect of particular programmes and projects.

Given the very substantial amounts of additional funding that would be required to implement the proposals that will be considered by UNCED, in the event of their approval, it does not seem realistic to rely primarily on increases in voluntary contributions to meet these needs. There are limits to the amount of voluntary funding that the Governments which provide most of this can be expected to provide as well as limits on the degree to which agencies, organizations and programmes can be expected to rely on ad hoc, year-to-year voluntary funding for programmes and activities of an essentially long-term nature.

The issue of burden-sharing inevitably arises. Accordingly, it is likely that to meet the substantially increased funding requirements that would arise from UNCED decisions would require large increases in mandatory contributions under agreed burden-sharing arrangements while continuing to provide for voluntary funding to complement and supplement, but not to substitute for, this. Under current conditions, it seems evident that it would be difficult to meet these requirements for "new and additional resources" by large increases in either mandatory or voluntary contributions that represent a direct charge against national budgets. There are, however, indications that some Governments may be willing to provide increasing budgetary allocations to fund global environmental needs. The Government of Norway, for example, which is already providing over 1 per cent of GNP for official development assistance, has suggested an additional contribution for global environmental programmes of 0.1 per cent of GNP. Switzerland has announced a special allocation of 300 million francs for "additional" support of environment-related programmes in developing countries. A number of donors have obtained funds outside of usual aid sources in making contributions to the Global Environment Fund.

There is also a great deal of potential for redeployment of funds within national budgets through reductions in military expenditures, reductions in subsidies to activities that are often environmentally unsound as well as costly in economic terms and changes in fiscal and taxation systems. A number of Governments and organizations are undertaking analyses of these possibilities.

General Assembly resolution 44/228 called for new and innovative approaches to meeting the needs for additional financial resources. Responding to this, there is set out below a summary of some of the principal means of meeting these requirements which have been examined by the secretariat:

(i) Debt relief

Over the past decade there has been considerable discussion of debt-for-nature swaps and other types of debt relief. Nineteen debt-for-nature agreements have been reached providing relief on debt with an original value of some $US 100 million with a generation of funds for environmental purposes of about $US 60 million. The scope has been limited in part by the need to avoid inflationary impact at the national level. New types of debt-for-nature programmes involve creation of trust funds aimed at long-term funding.

The Financial Times (12 June 1991) reported a transaction involving a donation by BankAmerica of part of its portfolio of developing country debt valued at $US 6 million to World Wildlife Fund and Conservation International. These groups will purchase external debt at a discount on secondary markets. They plan to utilize funds for environment-related

projects in Mexico and other countries. Meanwhile the Government of Poland has entered into negotiations with the Paris Club for a debt-for-nature swap of $US 3.3 billion. The proposal calls for establishment of a fund in Poland under joint Poland-creditor management to support critical environment programmes. If this agreement is completed, it will establish a new pattern which could involve significant reductions in debt portfolios as well as very substantial funding for sustainable development.

In continuing to consider this issue it has been suggested that very heavy indebtedness might be dealt with in a way analogous to the "Chapter 11" process utilized in the United States. A firm which has lost its credit worthiness enters into a Chapter 11 process of negotiation with banks. One result can be subordination of old debt to new, thus permitting an injection of new funding to get the production process operating again. In the case of heavily indebted Governments, where much of the debt is often owed to or guaranteed by Governments, this would be subordinated along with private debt. For the special but important case of debt owed to multilateral organizations it might be necessary to create donor support groups to avoid damage to their credit worthiness. In the context of coordinated accelerated development schemes as described in section 4, debt relief might well be an important element of an assistance package since it would strengthen credit worthiness while usually freeing up funds to finance imports.

The World Resources Institute has proposed a "multilateral authority" to reduce developing country external debt. (Partnership for Sustainable Development, May 1991.) The authority would purchase debt at a discount and then negotiate for phased forgiveness in response to adoption and implementation of sustainable development programmes. Examples include plans to control deforestation, to adopt appropriate energy pricing and least-cost energy strategies, to reduce population growth, to undertake land tenure reform, to raise the legal, social and economic status of women, and to implement manufacturing strategies emphasizing job creation. A similar scheme has been suggested in a paper prepared for UNESCO's Man-in-the-Biosphere programme. It proposes a Debt-for-Biosphere Reserve Management Investment Fund. "UNDP's Human Development 1991" suggests debt relief for promoting priority social expenditures. Similarly debt relief could be utilized for agriculture development or job creation.

Debt relief could be effected by individual arrangements with each debtor nation. But it could also be done through contribution of debt instruments by creditors to a central fund which would utilize them as a basis for funding long-term programmes of sustainable development agreed with debtor countries.

(ii) SDR-linked funding

Special Drawing Rights (SDRs) are created within the structure of the IMF in order to increase international liquidity. The distribution of SDRs could, in principle, be used to effect resource transfers and there have been several proposals for SDR-linked aid flows. In relation to the funding needs identified here, a portion of the SDRs that need to be created to augment international liquidity could be "allocated" either directly to developing countries or to a central environment-development source fund for agreed programmes of global importance which would in effect transfer resources and generate the required liquidity in the international monetary system.

(iii) Charges for use of the commons

The idea of gaining revenue from the global commons was articulated in the Law of the Seas negotiations. There could be potential revenue from sea bed resources, ocean fishing, use of the high seas by shipping, use of the atmosphere and stratosphere for air transport and for communication facilities which utilize global commons. There are potential revenues from use of outer space. Taxing the use of the commons could be administered by national Governments on behalf of the international community with revenues deposited in an internationally managed fund. Alternatively, an international taxing authority could be established under the United Nations with the revenues to be used for environmental protection and related development measures.

(iv) Private Investment Fund

Many environmentally-sound investments also are profitable. Energy saving measures are a good example. Other environmental investments become necessary to comply with new regulations. Thus in recent years a large number of firms have been established to capitalize on the new opportunities. Most of these operate primarily in industrial countries. In this context it is suggested that special measures may be needed to encourage more investment in environment-related efforts in developing countries. This has led to the idea of a private investment fund established to invest in and/or lend to developing country firms in cooperation usually with private sector enterprises and/or development banks. Such a fund would help overcome the problems which exist in reaching the developing country private sector through government-to-government aid processes. The Fund could, of course, be authorized to also lend to or invest in government-owned facilities under certain defined conditions.

Funding for such a private fund would come from the international investment community including from individuals. Management would be provided by a full-time team of professionals with the highest standards of qualifications and experience. Provision would be made to preclude control by any single individual or group through limitations on share ownership or voting rights. The Fund might be launched with the endorsement of Governments - perhaps at UNCED.

In order to establish the financial integrity and credibility of the Fund, initial capitalization should probably be at a level of at least $1 billion. Fund securities should be available to individuals throughout the world, making it eventually into a true peoples fund. One idea is to create Earth Bonds which would be a vehicle for savings in small denominations.

Governments might encourage institutions and individuals in their countries to invest through tax incentives, payroll deductions or guarantees.

A separate non-profit entity might also be set up, not directly linked to the investment fund but which might be subject to the same management. It would provide "soft" funding for sustainable development projects which may include improving the terms of an investment from the private investment fund. For example, a longer gestation forestry project which is otherwise economically attractive might need a longer grace period than would normally be available solely through a conventional investment. Another example would be a waste recycling project where social returns exceeded private returns and warranted lower interest rates. The Foundation would be funded by private and governmental donations and would conduct regular fund-raising campaigns.

(v) Earth Stamps

A group of more than 100 NGOs from some 30 countries proposed to the second substantive session of the Preparatory Committee the idea of Earth Stamps. Funds would be raised by asking Member State Governments to permit their postal system to sell Earth Stamps which would then be added to regular postage, probably voluntarily. The NGOs reported that such supplementary postage systems have in the past been used by Germany to help finance the Berlin airlift (in this case the postage was compulsory), and by the Netherlands and Switzerland to generate funds for relief, for health programmes or to support participation in the Olympics. Another possibility would be the selling of stamps outside the postal systems. This is already widely used as a fund-raising device by private organizations.

The group of NGOs estimate that very large amounts of money could be raised through such a scheme even if purchase of the stamps were voluntary. In the further development of the idea it would be especially important to decide how the funds would be managed and utilized in order to assure Governments and individuals that their investments would be well used.

Critical to the willingness of individuals and Governments to purchase such stamps would be their desire to support the uses to which the funds would be put. One suggestion for the use of the funds is that they might be channelled through a United Nations organization to finance transfer of technology to developing countries. Another would be that they be used as a source of funds for the kind of non-profit foundation referred to in paragraph (iv) above.

(vi) Allocative measures with a revenue potential

Certain measures taken primarily to influence behaviour of firms and households could have a substantial revenue potential. Such measures would generally be developed and calibrated with substantive objectives relating to resource use or pollution rather than as revenue measures. Two such measures suggested in recent discussions are described below:

(a) A non-renewable energy or "carbon" tax

There is increasing consensus on the desirability of measures to reduce greenhouse gas emissions and "carbon" taxes have been proposed by some for this purpose. Though the primary objective and the negotiating context of such taxes is mitigation of the risks of climate change, the revenue potential in some industrial countries is of a magnitude that only a relatively small proportion devoted to the task of accelerated development and environmental protection in low-income countries would result in major increases in ODA availabilities. Since an accelerated development strategy will also require resource mobilization in developing countries, such new revenue sources could be built into their strategies.

The World Resources Institute has proposed a system of coordinated national levies on greenhouse gases or their sources and the creation of a global Environment Trust Fund. This is described in "Natural Endowments: Financing Resource Conservation for Development", the 1989 Report of the International Conservation Financing Project commissioned by UNDP. While the amount of revenue would vary depending upon the tax level established, the report indicates that a tax equivalent to a 10 per cent tax on coal would produce industrial country revenues of more than $US 25 billion annually. Some have argued that the revenue measures should be applied at several stages in the production and consumption cycle. There are a variety of options for utilizing and managing such revenues ranging from an agreement to channel a portion of them through existing institutions to the establishment of a fund under a United Nations institution.

Another estimate on potential revenue from a carbon tax has come from Dr. José Goldemberg, Secretary of State for Science and Technology in Brazil (quoted in WRI's 15 May 1991 testimony to the United States Senate Foreign Relations Committee). He states that a $1 per barrel tax on oil or its equivalent would generate $50 billion yearly. A tax at this level would be basically a revenue measure to finance global efforts rather than being an important disincentive to consumption. To modify consumption levels would require a tax substantially higher.

Worldwatch Institute in its State of the World 1991 (page 183) reports on a United States Congressional Budget office estimate that a phased-in tax on each ton of carbon beginning at $11 in 1991 and going to $110 in 2000 would yield by the year 2000 revenues in the United States of $120 billion. Such a tax was projected to lead to a 37 per cent reduction in carbon emissions and a 23 per cent improvement in energy efficiency. Of course the revenue impact would be reduced to the extent offsetting tax reductions were implemented.

A more modest proposal has been suggested in a UNCTC working paper for "Financing Sound Energy Technologies in Developing Countries". Taxes of perhaps 1 per cent would be imposed on fossil fuels at the source of extraction and on consumers at the retail level to raise a few billion dollars for a "World Energy Alternatives Commission". Funds would be used to develop energy strategies and for funding renewable energy and energy conservation projects.

From an environmental point of view it would be logical, and in some respects more equitable, to extend the concept of a carbon tax or tax on fossil fuels to include all non-renewable sources of energy. The practical effect of this would be to extend the energy sources that would be subject to the tax to include nuclear energy. While nuclear energy does not contribute to the build-up of greenhouse gases in the atmosphere which produce the risks of global warming, it is nevertheless a source of other significant environmental effects and risks. Also, the nuclear industry has been developed with the support of very large-scale expenditures and subsidies from public funds and on this basis, too, it could be argued that it should bear its share of the burdens of any taxes imposed for purposes of environmental protection.

(b) Tradeable permits

There is growing experience with the concept of "critical loads" being apportioned by an agreed upon formula and then made available for trading. The critical load should be grounded in a scientific assessment but in practice is likely to also take into account political and economic factors. The overall critical load is related to an environmentally-affected unit. In the case of global warming the unit would be the whole Earth. In the case of acid rain, it might be a region of several countries. For air pollution the unit might be a metropolitan area. Once the environmental unit is decided upon and the overall critical load is established the overall load is apportioned in accordance with agreed upon criteria to subunits such as countries, firms or individuals. The subunits are then allowed to "trade" allocations. For example an efficient firm may not use its whole quota and would be able to sell emission rights to a firm wishing to exceed its allocation. To the extent that critical loads were traded among firms there might not be any public revenue available for programming. The concept in this case should be thought of as an "economic instrument" with the special benefit of achieving critical load limitations in the most economic way. If the critical load was traded among Governments, there could be the potential of substantial transfers from one country to another. The amounts would depend in large part on the original allocations of "pollution rights". In the case of green house gases it is argued that industrial countries have the room to reduce emissions considerably while many developing countries will need to maintain or increase emissions to achieve development objectives. If the allocations to developing countries were larger than needed in the short run, they might then sell rights to over-quota industrial countries, giving them time to adjust to agreed lower levels over a longer period of time. A proposal to this effect has been made by the Secretary-General of UNCTAD.

Another possibility would be the selling of critical loads within countries by the public to private sectors. For example a total critical load of air pollution might be established leading to a regulation on tolerable plant-level pollution levels but with the understanding that the new emission standards would be achieved over a 10-year adjustment period. The Government would be authorized to sell permits to individual firms wishing to exceed the limits in the transition period. This would provide a limited incentive to adjust quickly but short of an absolute requirement. It would also provide a temporary stream of revenue for the Government. The revenue could be devoted to a special purpose such as research for cleaner technologies. Within the framework of the critical loads approach a wide variety of applications can be considered.

4. Financing mechanisms

A fundamental question arises as to whether each of the funding needs referred to above should be met on a case-by-case basis or through establishment of a single "sourcing" fund.

(i) Case-by-case funding

Under the case-by-case scenario, which is the current situation, individual arrangements would be made to meet each particular funding requirement. The funds required for implementation of conventions would come from the assessments provided for under each convention from the countries adhering to it. Funding of the UNEP Fund would continue to be raised through direct appeals to Governments and the same might be true of contributions to a capacity-building fund and other additional contributions of official development assistance. It is also possible to envisage meeting certain specific requirements from particular sources that are related to them, e.g. funding required by developing countries to develop alternative energy sources or to undertake large-scale afforestation programmes might come from a carbon tax or levy. Similarly, environmental funding requirements of developing countries might be provided from taxes or levies on damaging products or activities in industrialized countries.

The very substantial increases in the magnitude of resource flows required to meet all of the principal requirements of developing countries raises the question as to whether it is practical to continue relying as much as is presently done on voluntary funding. While voluntary funding will undoubtedly remain an important factor in meeting the resource requirements of developing countries, it seems likely that there would need to be a substantial element of agreed burden-sharing in any arrangements for meeting the substantially increased needs that are now apparent.

(ii) Establishment of a general "sourcing" fund

An alternative to meeting funding needs on an ad hoc, case-by-case basis would be the establishment of a general "sourcing" fund which would also facilitate the application of burden-sharing. Such a fund could serve as the means for mobilizing funds from a variety of sources and

serve as a repository and dispensing mechanism for such funds. These could consist of both assessed and voluntary contributions from Governments as well as the kinds of "new and innovative" sources of funding referred to above. Funding requirements for implementation of conventions, to the extent that they represent the obligations of States under the convention, would need to be provided by such States, although arrangements could be made for this to be done through the mechanism of a general sourcing fund if this were desirable. And, in any event, supplementary funding in support of the conventions could be provided from the general sourcing fund.

Such a general "sourcing" fund (which might be called an "Earth Fund", "Green Fund" or "ECO Fund") would not itself be operational in the investment and expenditure of the funds it receives. Rather these would be dispensed through existing funding mechanisms, e.g. the World Bank, the Global Environment Facility, UNDP, UNEP, regional development banks and other regional and subregional agencies and organizations implementing programmes under agenda 21. It could be designed to provide the sole or principal source of funding for such specific requirements as the Global Environment Facility, the Fund of UNEP, the capacity-building fund and implementation of the other elements of agenda 21 as well as the additional resources required by developing countries to implement environmental measures for relief of poverty and achievement of sustainable development.

There have been several proposals for the establishment of new global funds to deal with environmental needs. One such proposal for a "World Atmosphere Fund" emanated from the first global climate conference in Toronto, Canada, in June 1988 and was subsequently the subject of a study commissioned by the Government of the Netherlands. The late Indian Prime Minister Rajiv Gandhi, at the non-aligned summit meeting in Belgrade, called for the establishment of a "Planet Protection Fund". He proposed contributions of 0.1 per cent of GNP from all countries except the least developed which would raise an estimated $18 billion (United States) per annum. The March 1989 Declaration of The Hague called for new institutional authority for the United Nations. Developing countries have also proposed creation of a "Green Fund" which was endorsed at a conference of developing-country ministers on environment and development held in Beijing in June 1991.

(iii) The Environment Fund for UNEP

This was established as a voluntary fund to provide financing to cover a major portion of UNEP's administrative and staff costs as well as its programmes. The role of the Fund for UNEP and its relationship with other funding mechanisms could be examined by the Preparatory Committee. The issues raised in paragraph 6 of A/CONF.151/PC/18 will be particularly relevant in this respect.

(iv) Mechanisms for funding related to conventions

The funding linked to the implementation of conventions will be negotiated as part of the process of negotiating the obligations under the conventions. In terms of mechanisms, one option would be to have a separate fund for each convention with perhaps some sharing of management and administrative services between the different funds, each subject to decisions of the governing body set up by the relevant convention. The Preparatory Committee may wish to discuss the elements of this option vis-à-vis the alternative of relying on a general sourcing fund. In negotiating funding arrangements there is the related question of whether or not entirely separate funds should be established for each agreement. In practice, it can be expected that in fact funds would usually flow to developing countries from more than one source. The Montreal Protocol includes provision for association of funding from bilateral donors. This would be the case especially where a given project served multiple purposes with convention-related costs representing only part of the total. The Preparatory Committee may wish to discuss how associated funding will be related to conventions.

(v) Global Environment Facility

Member State comment in the second substantive session was generally supportive of the recently established Global Environment Facility (GEF) operated as a pilot project by the World Bank with UNEP and UNDP. It has been suggested by some countries that as new conventions and protocols are agreed requiring substantial incremental funding for their implementation, the mandate and funding of the GEF and other existing institutions could be expanded. This, it was indicated, would obviate the need for the creation of new funds for implementation of new conventions. An important issue that would have to be resolved, however, before this could occur is the relationship between decision-making processes under the respective conventions and how GEF would be bound by these in allocating its funds in support of the conventions. Under existing arrangements for decisions as to allocation of GEF funds, it is not required that GEF respond to the priorities established or decisions taken by Governments pursuant to the conventions. Also, the GEF is based on voluntary funding whereas the funds linked to conventions would normally involve assessed contributions. An alternative approach would be to confine the GEF to the raising and administration of funds for programmes not covered by specific conventions. A further variation would be to distinguish between funding and administration, establishing, for example, separate funding agreements but using GEF orbother multilateral or bilateral aid management units for actual administration.

Some envisage that in addition to providing the mechanism for financing implementation of conventions, the GEF might become a mechanism for mobilizing and dispensing the funding required for a broader range of environment and related development purposes. Under this scenario, the GEF might be mandated to undertake many of the functions envisaged for the "sourcing" fund referred to above. In this case, it could be

seen as a possible alternative to the creation of such a general sourcing fund. This, however, would require significant changes in the GEF as currently set up. In addition to the need to effect changes in its governance to provide for its response to funding decisions taken in other intergovernmental fora, including conventions, there would undoubtedly need to be consideration as to whether a separate governing board would need to be set up to meet developing country insistence on greater representation in its governance. The question of burden-sharing would also have to be faced as it is unlikely that a major expansion in the funding could be achieved through voluntary contributions unless reasonable burden-sharing was achieved. Other issues which would need to be addressed are terms (grants or concessionality of loans) and the role of GEF funding for technical assistance.

The Preparatory Committee may wish to take into account these considerations in its discussions of the future role of the GEF as a financing mechanism.

(vi) Capacity Building Fund

The substantial new needs for capacity building in developing countries referred to in section 2 of this paper can only be met through sizeable increases in support provided through a number of bilateral and multilateral channels. This might be facilitated by establishment of a consultative mechanism, similar to the Consultative Group for International Agricultural Research (CGIAR).

In addition, it would undoubtedly be useful if one agency played a lead role in "brokering" the mobilization of funds through such a consultative group. Given the leading role of UNDP in the field of technical assistance, it would be logical for UNDP to perform this role, and through it the whole United Nations system be involved. It would have to work in especially close association with UNEP, the World Bank, the Regional Development Banks and other regional and subregional organizations - governmental, intergovernmental and non-governmental. Consideration might also be given to establishing under the auspices of UNDP a special fund to support its catalytic role in capacity building and the related establishment of Sustainable Development Networks. For an elaboration of this approach, see Part III of the Report on Transfer of Technology (A/CONF.151/PC/53).

(vii) Partnership in additionality: contracts for accelerated and sustainable development

It has been suggested that it might facilitate the provision of aid if developing countries were to put forward ambitious accelerated and sustainable development programmes and if willing donors responded with additional funding.

A partnership in additionality would be based on a developing country's clear articulation of policies and strategies and a programme of action for their implementation. The strategies would be designed to enable full use of economic opportunities in a drive for fast growth in

production levels while at the same time reordering internal priorities toward a broad-based attack on poverty, concentrating, for example, on basic education and rural infrastructure. Such strategies would be the basis for a commitment to increased funding from international and bilateral donor sources. A sustained commitment would be needed by both developing countries and donors. It would be essential for such programmes to enjoy broad popular support since the donor-recipient relationship likely could not endure a charge of unwanted conditionality.

Such a process could be coordinated through existing Consultative Group and Roundtable processes. However, in view of the broad nature of the funding required, a special process could be considered where periodically the "contracting parties" could meet to discuss progress and agree on the solution of any emerging problems and on future plans.

Funds would need to be made available in a flexible way and on a sustained basis. Provided such funding was available to all countries where substantial poverty exists and especially those with sufficient management capacity and infrastructure to absorb the assistance quickly and efficiently, it would appear that substantial additional ODA could be readily absorbed. Very significant inroads could be made on the elements of poverty, in effect achieving the "socially necessary" rates of growth which the WIDER study referred to in section 2 defined as necessary to achieve targets for health, education, poverty alleviation, employment and improvements in income distribution. The path through the demographic transition would be quickened. Combined with a concerted effort on capacity building outlined above, developing country population and Governments would be made better able to cope with environmental issues.

A similar proposal has been put forward by Mr. Lal Jayawardena in the WIDER paper referred to earlier. Earlier, it was put forward, in 1989, by Mr. Thorvald Stoltenberg, Foreign Minister of Norway, in a paper presented to the OECD Development Centre's 25th Anniversary Symposium and published in One World or Several, OECD, 1989. He called for financing medium- and long-term development plans prepared by the developing countries themselves. The distinguishing feature of such contracts would be the long-term nature of the commitments to support the effort, ensuring a fair partnership and a central role for the developing countries in question. Participants would include the IMF, the World Bank, other major multilateral agencies and the bilateral donors. The premise of such a comprehensive and sustained system is that it would bring larger and more predictable flows of concessional resources.

5. Summary of Issues for Consideration

(i) The Preparatory Committee may wish to comment further on the question of new and additional resources both for development as traditionally conceived and for identifiable environmental issues of global concern.

(ii) The Preparatory Committee may wish to comment on the critical funding issue vis-à-vis environment, development and international organizations: should environment and development activities be funded from the regular budgets of each agency and taken into consideration by their governing bodies in setting funding levels or should they rely on voluntary funding? What is the role of catalytic funding by UNEP or contract work type funding by UNDP?

(iii) The Preparatory Committee may wish to consider whether financing mechanisms should be developed case by case or should a central source funding mechanism be developed.

(iv) The Preparatory Committee may wish to consider whether and to what extent the financing required to implement new conventions should be provided directly by the parties in these conventions or through a new "sourcing" mechanism as referred to in section 4 (ii). It may also wish to comment on the appropriate role of the GEF.

(v) The Preparatory Committee may wish to comment on the issue of capacity building. Does it agree that special measures are required to support capacity building in developing countries and regions? If so, does it consider that the steps referred to in section 4 (vi) may be a suitable starting point for such measures? Does it agree that this issue can often best be approached at the regional level? Should the UNDP undertake a lead role in respect of capacity building and the brokering and mobilizing of funding for the purpose of capacity building?

(vi) The Preparatory Committee may wish to discuss whether or not the elements of a "partnership in additionality" for an accelerated and sustainable development strategy described in section 4 (vii) are valid. Would developing countries be willing and able to take the politically difficult policy decisions needed for an accelerated and sustainable development effort? Would industrial countries be willing and able to marshall a substantially increased aid effort and through what mechanisms would funds be channelled? Is it feasible to obtain long-term commitments to support accelerated development efforts and to meet developing country requirements for environmental protection? How can this best be done? What kind of consultative process should be developed?

(vii) The Preparatory Committee may wish to consider the various suggestions in section 3 for new and innovative sources of finance and provide guidance to the secretariat as to its further work on this subject.